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ABSTRACT

Elements of the Japanese educational system were examined to determine if they could be incorporated into U.S. practices. Research was reviewed in five areas, and annotations for each section were organized chronologically beginning with the most recent. The five areas covered were: (1) differences in test scores of achievement and cognitive ability; (2) the general framework of the Japanese educational system; (3) problems created by the structure of the system; (4) teachers and instruction; and (5) the movement for reform in Japan's schools. Possible answers for the dramatic differences in achievement between students in Japan and the United States included the structure of the Japanese education system with its standardized curriculum and text-books, national standardized tests, and the amount of time devoted to each subject. However, these methods have their problems, including a heavy emphasis on memorization of facts and test taking techniques, high suicide rate due to pressure to succeed, and other stress related social problems such as bullying. After considering these and other factors, nine recommendations to improve the U.S. educational system were made. These included: (1) more parental involvement; (2) increased salaries for teachers comparable to other professions; (3) a longer academic year; and (4) higher expectations and standards for student achievement. (KM)

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LESSONS FROM JAPAN

by

BRUCE ROGERS

U.S. DEPARTMENT OF EDUCATION
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INTRODUCTION

In 1983, when President Reagan and Prime Minister Nakasone of Japan met, an agreement was reached to begin a cooperative effort to study education in each other's countries. Both countries were engaged in serious efforts to improve their education systems, and hoped to benefit mutually from such a study. The American product of this study, Japanese Education Today was published in 1987.

Then Secretary of Education, William Bennett, wrote an epilogue to this report suggesting the following twelve gleanings: 1) increased parental involvement, 2) statements of clear goals and objectives, 3) motivation is a key, 4) high expectations for all students, 5) the "basics" for all children, 6) transmission of cultural values, 7) reinforcement of ethical behavior, sound character, and culturally acceptable values, 8) the efficient use of class time, 9) competent, dedicated, well paid teachers, 10) an orderly and disciplined environment, 11) wise management of resources, and 12) students need to take responsibility and be held accountable for their education. (OERI, 1987)

STATEMENT OF THE PROBLEM

Technological and economic achievements have propelled Japan to the forefront as a world class success story. While many in America have been applauding (or jealously envying) this apparent miracle, little scientific data have been examined. Before selecting the Japanese model as a panacea for America's educational woes, a closer examination needs to be made.

PURPOSE OF THE STUDY

The purpose of this study is to examine elements of the Japanese educational system, and determine which, if any, could be implemented into the American system.

ORGANIZATION OF THE STUDY

This review of research has been separated into five parts. The first section looks at differences in test scores of achievement and cognitive ability. Part two examines the general framework of the Japanese educational system. Problems created by this structure are discussed in the third section. Next, this paper focuses on teachers and instruction. The final segment discusses the movement for reform in Japan's schools. Annotations for each section are organized chronologically starting with the most recent.

LIMITATIONS OF THE STUDY

The research on this topic was limited by the lack of organized scientific research data comparing the educational systems of Japan and the United States. Only written information from the year 1982 and later was used as the foundation for this paper.

GLOSSARY

han - Small mixed-ability groups of four to six students assigned to work together.

ijime - "school bullying" The itimidation and abuse of students by others.

juku - "cram school" Private schools where enrichment or remedial academic subjects are taught outside the public school system.

kyoiku mama - "education mother" Term used to describe the mother's role as a nurturing agent in the education process.

Monbusho - The Japanese Ministry of Education, Science and Culture (MOE).

ochikobore - Students who have fallen behind in their class work.

ronin - "masterless samauri" Students who have failed the college entrance exams and chosen to study further to prepare for retesting.

sensai - Title of respect given to teachers in Japan.

shiken jigoku - "examination hell" Term used to identify the entrance exams given Japanese youth.

tannin - Teacher in charge of a class of students, whose duties combine those of homeroom teacher and counselor.

tokokyobi - Children in Japan who for a variety of reasons simply stop going to school.

yobiku - Juku specializing on preparation of post high school youth attempting to retake college exams.

ACHIEVEMENT AND COGNITIVE ABILITY TEST RESULTS

Grosvenor, Gilbert M. "Superpowers Not So Super in Geography." National Geographic 176 (6) Dec. 1989: 816-821.

This survey of geographic knowledge sampled by the National Geographic Society was conducted in ten nations, including Japan and the United States. Japanese adults scored slightly better than their American counterparts. Differences were much greater, however, among youth. The United States finished last of sixteen nations, with Japanese 18-24 year olds ranked third. Only in the United States did the youth score lower than the adults.

Uttal, David H.; Lummis, Max; and Stevenson, Harold W. "Low and High Mathematics Achievement in Japanese, Chinese, and American Elementary-School Children." Developmental Psychology 24 (3) 1988: 335-342.

The authors of this study explored elements associated with high and low achievement in math. First and fifth graders who ranked in the top and bottom deciles on a math test were given tests of reading achievement and intellectual ability. Interviews were conducted with the students and their mothers. The study wanted to discover if high and low "levels of intellectual ability differentiate level of mathematics achievement" in Japanese and American students in the same way. Factors related to home life, which in the past have been shown to influence the scholastic performance of American students were also investigated, including education of parents, how the students spent their time away from school, and the parents' beliefs about their children's intellectual abilities. All testing materials were developed specifically for this study. A significant difference between locations in distribution of high and low achievers was found in the classrooms. Fourteen of twenty Japanese first grade classrooms had both high and low achievers while only four of twenty American classrooms showed this wide variation. Japanese students in both the high and low ability groups out performed their American counterparts, although differences between high and low were very similar. Both locations were similar in the relation between parents' education and children's level of math achievement. The perception of mothers of low achieving children were different. American mothers were much more likely to underestimate their child's problem. A surprising result was that high and low groups in both countries spent approximately the same amount of time doing homework, playing and watching television. Results of this study indicated that intellectual ability was closely related to levels of mathematics ability within both locations, but not associated with between location variations.

Sowder, Judith, ed.; Sowder, Larry, ed. "Research into Practice: The Use of Verbal Explanation in Japanese and American Classrooms." Arithmetic Teacher 36 (2) Oct. 1988: 27-29.

This article reported the difference in instructional styles between Japanese and American math teachers. The study was conducted by Harold Stevenson and James Stigler at the University of Michigan. First and fifth grade classes in the cities of Sendai, Japan and Chicago were targeted. Earlier studies by Stigler and Stevenson documented the superiority of Japanese students on standardized international math tests. Educators have claimed these differences were due to Japanese students taking more math classes and the emphasis on rote learning as opposed to problem solving skills not usually surveyed on standardized tests. The authors found these assertions to be false. Japanese students showed superior performance existed as early as kindergarten and were not limited to basic computational skills. Data collected from direct classroom observations studied instructional differences in an attempt to explain this. This amount of time spent on verbal explanation in Japanese first grades was about double that of American classrooms. Japanese teachers also presented fewer problems, spending more time discussing each one.

Holloway, Susan D. "Concepts of Ability and Effort in Japan and the United States." Review of Educational Research 58 (3) Fall 1988: 327-345.

Holloway reviewed recent research based on cognitive ability and effort of Japanese students. She looked at school and home factors specifically. The author concluded that cultural differences prevent any useful direct comparison for the purpose of implementing specific strategies for change. Indeed, Holloway pointed out ironically that while the "whole child" is the heart of elementary education in Japan, American educators determined to borrow from them are calling for more focus on academic subjects.

Horvath, Patricia J. "A Look at the Second International Mathematics Study Results in the U.S.A. and Japan." Mathematics Teacher 80 (5) May 1987: 359-368.

Horvath reported on the results of the Second International Mathematics Study (SIMS) conducted in 1980-1982. Results from the SIMS were compared to the First International Mathematics Study (FIMS). The target populations were eighth and eleventh graders. The number of Japanese students studied was 8091, Americans numbered 6858. This sample represented a cross section of geographical areas. Four cognitive areas were tested: computation, comprehension, application, and analysis. In both studies, the Japanese students out performed the Americans at the eighth and eleventh grade levels. The difference in scores at the eleventh grade level was greater than the eighth grade in both studies. Even more alarming was the finding that the gap between the two cultures had widened in the years between the FIMS and the SIMS. Horvath was convinced that major adjustments are necessary if American math achievement is to improve.

Stigler, James W.; Lee, Shin-ying; and Stevenson, Harold W. "Mathematics Classrooms in Japan, Taiwan, and the United States." Child Development 58 1987: 1272-1285.

This study attempted to observe student and teacher behaviors to explain differences in achievement. Previous reports by the same researchers showed Japanese students outperformed American students. Japan and the United States compare in several ways. Both are industrial nations with education playing an important role in career choices. Students begin school at roughly the same time. The sample groups were first and fifth graders in Sendai, Japan and Minneapolis. Two coding systems were developed, one for students and another for teachers. In Sendai, 1200 observations were conducted, compared to 1353 in the United States. American first grade students spent much less time engaged in academic activities during math class (69.8 percent) than Japanese (79.2 percent). The difference was even greater at fifth grade (64.5 percent, 87.4 percent). One explanation was the amount of time spent in the classroom devoted to mathematics instruction. At both grades, Japanese students spent more than twice the amount of time studying math than American students. Even more alarming is the fact that American students were off task seventeen percent of the time compared to ten percent for the Japanese students. The American students were out of their seats twenty one percent of the time as opposed to the Japanese, four percent. Questioning also showed a significant difference. American teachers were twice as likely to address questions to individual students. There were no large differences in the quantity or type of feedback given by the teachers. Stigler concluded the following as elements associated with mathematics achievement: addressing questions to class instead of individual students, time on task, and amount of direct instruction.

Walberg, Herbert J.; Harnisch, Delwyn L.; and Tsai, Shiow-ling. "Elementary School Mathematics Productivity in Twelve Countries." British Educational Research Journal 12 (3) 1986: 237-248.

Mathematics achievement in twelve countries was studied and correlated with socioeconomic status, homework hours, interest in math, and level of math taken in school. The test administered to students was developed by the International Study of Achievement in Mathematics. Curriculum, test and math experts collaborated to draft the test insuring standards of technical and curriculum validity were met. Internal consistancy of the math test varied from .87 to .96 in various countries using the Kuder-Richardson Formula. The target groups were thirteen and seventeen year old students. Japanese students outperformed the Americans on this test (Japan m=38.55, U.S.A. m=28.68). Sociological factors played a much greater role in determining math achievement in Japan. The correlation between math achievement and fathers with a professional occupation was .28 in Japan compared to .19 in the United States. Another positive correlation with significant differences dealt with the attitude toward school learning. American students were much more likely to do well in mathematics if they reported a positive attitude toward school than Japanese students (.18 to .04). However, interest in mathematics in Japan (.43) was much more closely correlated than in America (.26).

Stevenson, Harold W.; Stigler, James W.; Lee, Ahin-ying; Lucker, G. William; Kitamura, Seiro; and Hsu, Chen-chin. "Cognitive Performance and Academic Achievement of Japanese, Chinese and American Children." Child Development 56 1985: 718-734.

This 1985 study by Stevenson, et.al., was conducted to validate the findings published by Lynn and Dziobon in 1980. The 1980 study tested cognitive differences in American and Japanese students using the WISC-R. Stevenson felt methodological problems in Lynn's analysis prevented accurate generalizations, and cited improper norming procedures and a lack of control for sociological factors. In Stevenson's study, first and fifth grade students were compared. Geographical, urban, and sociological factors were considered when selecting target groups. The following cognitive tasks were tested: coding, spacial relations, perceptual speed, auditory memory, serial memory, vocabulary, verbal spacial, verbal memory, and general information. Reliability for these tests ranged from .73 to .98, except for verbal spacial (.63) and verbal memory (.61). This study found no significant differences between the cognitive abilities of American and Japanese students, and was a direct contradiction of Lynn's 1980 research. Indeed, American first graders were often found superior to their Japanese counterparts. Stevenson speculated that this was due to more frequent exposure to events outside the home and neighborhood. Only thirty percent of Japanese parents reported taking their children on an outing in the previous month, compared to ninety one percent of American parents. Fifth graders studied, however, displayed no significant differences in any of the tests. Stevenson concluded that the superiority of Japanese students in math is not due to a higher level of cognitive functioning.

McKnight, Curtis C.: Travers, Kenneth J.: Crosswhite, F. Joe; and Swafford, Jane O. "Eighth-Grade Mathematics in U.S. Schools: A Report from the Second International Mathematics Study." Arithmetic Teacher 32 April 1985: 20-26.

Achievement results for mathematics were reported by McKnight, et.al., in this article. Eight graders in Japan and the United States were studied using the Second International Mathematics Study. Japanese students outscored their American counterparts in algebra (m=61, m=42), and measurement (m=66, m=41).

Stigler, James W.: Lee, Shin-ying; Lucker, G. William; and Stevenson, Harold W. "Curriculum and Achievement in Mathematics: A Study of Elementary School Children in Japan, Taiwan, and the United States." Journal of Educational Psychology 74 (3) 1982: 315-322.

Construction of a cross-culture, American and Japanese mathematics test was outlined. Curriculum experts, math teachers, and translators collaborated to develop a seventy question exam. Reliability values ranging between .93 and .95 were reported using Cronbach's alpha. Japanese first graders outscored American first graders 20.1 to 17.1. The range was even greater for fifth graders, 53.3 to 44.4. Since the American curriculum used to construct the test was matched with Japanese math curriculum, the difference had to be accounted for elsewhere. Stigler, et.al., suggested the amount of time spent on math instruction in Japan, twenty five percent, compared to fourteen percent in American classrooms, was the primary reason. The greater amount of time spent on homework in Japan was also a factor according to the authors.

Lynn, Richard. "IQ in Japan and the United States shows a growing disparity." Nature 297 20 May 1982: 222-223.

Test samples analyzed by Lynn indicated a significantly higher IQ among the Japanese population compared to that of Americans. The average IQ of Japanese born since 1961 is 112. The Wechsler Intelligence Scale for Children (WISC) was used as the testing tool. It was standardized in the United States in 1970 and Japan in 1975. Lynn concluded that the high rate of Japanese economic growth in the post World War II period may be directly linked to this cognitive superiority.

EDUCATIONAL ORGANIZATION IN JAPAN

Reischauer, Edwin O. The Japanese Today. Cambridge, Massachusetts: Belknap Press, 1988: 186-202.

Reischauer was born and raised in Japan and served as the U.S. ambassador to that country in the 1960's. He is recognized as an expert in the areas of Japanese culture and history. One chapter of his book, The Japanese Today, is devoted to education. Reischauer gave an excellent review of the Japanese educational system and attempted to explain it in terms Westerners could understand by providing historical and cultural contexts. The Japanese Today presented a noncritical point of view. Reischauer noted specific cultural differences that have influenced the Japanese system. They include social group rankings, family involvement, equal social access and conformity.

Beauchamp, Edward R. "The Development of Japanese Educational Policy, 1945-85." History of Education Quarterly 27 (3) Fall 1987: 299-324.

Beauchamp's article was a summary of the Japanese educational system beginning with the Maiji period (1868-80). The heart of this review covered the years 1945-1985. An Ad Hoc Reform Council was formed in August, 1984, to make recommendations for education reforms. Prime Minister Nakasone viewed reform as "a matter of great urgency." The author traced the post war development of Japan's education system to provide a background for the council's recommendations. Three obstacles were cited which could inhibit any large scale reform. The Confucian legacy stressing memorization of the classics (rote learning) is deeply ingrained in the Japanese culture. The number of students competing for a limited number of college places is steadily increasing because of the "ronin". Lastly, any change in the system might be viewed negatively by businesses and industries who use the rigid examination system for placement purposes. Japan, having borrowed in the past from Europe and the United States, now finds itself with no model as an obvious candidate for adaption. The real question according to Beauchamp is: "Can the Japanese reformers create a new model which will not only meet their needs in the twenty-first century, but will also serve as a model from which the rest of the world might learn?"

Kariya, Takehiko; and Rosenbaum, James. "Self-selection in Japanese Junior High Schools: A Longitudinal Study of Students' Educational Plans." Sociology of Education 60 (3) July 1987: 168-180.

This study compared the college selector process of American and Japanese junior high and high school students using longitudinal data. This study began in 1982 and tracked students in four Tokyo junior highs (N=1084) with yearly follow ups conducted for four years. Four questions were addressed: 1) Are Japanese students' plans already stable by junior high? 2) Are their plans responsive to grade changes or are they constrained by confusion or cooling-out processes? 3) Does the rank of students' high schools affect their plans and mediate the effect of grades on their plans? 4) Do grades affect students' perceived vocational options? Kariya and Rosenbaum wanted to study the effects of the rigid, national testing program on Japanese students. They discovered the decision to enroll in college was made by Japanese students (95 percent) at an earlier age (average fifteen). College selection in Japan is based on a single criterion (college entrance examinations). Preparation for this test necessitates the choice at an early age. Delayed selections and diverse criteria allow American students the luxury of keeping choices open.

Ogura, Yoriko. "Examination Hell: Japanese Education's Most Serious Problem." College Board Review 144 Summer 1987: 8-11, 26-30.

Ogura, a research analyst at Kwansei Gaukin University, took a critical look at "Examination Hell", the term given to describe the annual college entrance tests taken by high school seniors in Japan. Students begin preparing for these exams in elementary school, knowing their future careers and status in society are at stake. Ogura cited two areas of concern. To prepare students for these exams, the pedagogical emphasis in high school is on test taking techniques. Although most teachers disdain this approach, lower scores would damage the reputation of their school. Perhaps even more devastating are the negative psychological and emotional effects. The competition is tremendous. Since Japanese schools target instruction for the average student, the impetus is "not to get ahead but to try not to be behind." Cram schools (juku and yobiko) have developed to address this fear. Ijime (bullying) and suicide increases have a direct link to "examination hell" according to the author. Ogura recommends a revamping of the college admissions tests, using a more subjective format. He also argues for using high school transcripts as a second criteria for admission.

Abiko, Tadahiko and George, Paul S. "Education for Early Adolescents in Japan, U.S.: Cross-Cultural Observations." NASSP Bulletin 70 (494) Dec. 1986: 74-81.

Abiko and George spent more than five hundred hours observing fifteen middle schools in four states to collect the data presented in this report. The authors concluded that judging one model superior was impossible because of cultural considerations. They did, however, cite important differences including classroom management, instructional methodology, and grouping. Strengths of both systems were mentioned. Abiko and George agreed with John Dewey that a "society should organize schools on the basis of the kind of society it wanted to become...Japan and the United States would be stronger, healthier and more vibrant cultures if each could adapt the strengths of the other without losing the strengths it already possesses."

Shimhara, Nobuo K. "Japanese Education and Its Implications for U.S. Education." Phi Delta Kappan February, 1985: 418-421.

Shimhara presented a critical look at the Japanese education system in this article. He focused on two specific areas, sociological and educational. Shimhara cited two sociological factors which have influenced education, mobility and cultural homogeneity. Japanese workers seldom move from jobs. Since workers are hired out of school, academic credentials and not job performance is critical for career success. Cultural diversity is almost nonexistent in Japan, making the standardization of language, values, curriculum, and testing possible. The education factors mentioned in this article are consistent with other research reports: 1) the length of the school year is greater, 2) high expectations and standards are set for all students, 3) high student motivation, 4) moral and social values are emphasized, and 5) school success is important, therefore more intense.

Kato, Juhachi; Hukagawa, Keizo; and Ito, Yukio. "Differences of Educational Consciousness Between American and Japanese Teachers." NASSP Bulletin Dec. 1984: 82-89.

Kato, Hukagawa, and Ito studied the differences in teachers' philosophies and attitudes. The most striking differences were in attitudes on cramming, student failure, and competition. Japanese teachers supported education based on memorization and cramming (sixty three percent compared to only six percent of American teachers). Teaching in a competitive environment was favored by forty eight percent of Americans compared to sixteen percent of Japanese teachers. Thirty five percent of Japanese teachers felt personally responsible for student failure, but only two percent of American educators agreed. In general, the researchers found character building as the primary goal of Japanese education. Americans tended to view acquisition of knowledge and information as the most important goal of the school.

Hiraoka, Leslie S. "Japan's Educational Order." Education 105 (1) Fall 1984: 7-10.

The educational basis for Japan's economic boom was discussed by Hiraoka. Close relationships between the Ministry of Education (MOE) and other government agencies have helped to coordinate efforts, insuring that necessary occupational skills are taught in school. A second pillar of Japanese education is the strong political base held by teacher unions. The author saw this liberal force as a counterbalance to the MOE. The final element of education supporting the Japanese miracle is the examination system. It is "used as a whip which cows the vast majority of students, embraced by conservatives criticized by most of society, but, in the end, endured."

Rosenberg, Nancy S. "Education in Japan: A Study in Contrasts." Independent School 42 (3) Feb. 1983: 47-53.

The author of this article is an American teacher who visited Japan through the International Society for Educational Information, a nonprofit organization based in Tokyo. Rosenberg visited nine schools in Japan and interviewed students, teachers, and administrators there. Unique features of Japanese education observed by her were sexual segregation, school cleanup, social promotion, lack of ability grouping, centralized education, and examination hell.

PROBLEMS WITH THE JAPANESE SYSTEM

DeVito. Alfred and Ogawa, Masakata. "A Japanese Education." Science and Children 26 (7) April 1989: 21-23.

DeVito spent six weeks studying the Japanese education system in 1987. His findings focused on cultural contrasts, discipline, and the teacher's role. The author cited a report submitted by the National Council on Educational Reform, calling for sweeping changes in the Japanese education system. Major changes are unlikely according to DeVito and Ogawa, because such changes would spur a great social revolution as well.

Matusmoto. Nancy. "The children who refuse to go to school." Japan Times Weekly Overseas Edition 30 April 1988: 7.

The phenomenon of tokokyohi is increasing at an alarming rate in Japan. Tokokyohi refers to students, who for a variety of reasons, simply stop going to school. In the decade from 1975 to 1986, the number of students absent from school more than fifty days rocketed from 23,584 to 52,080. During the same years, the number of students saying they stayed home because they hated school rose from 32.7 percent to 57 percent. Noriko Katshata, a leading Japanese psychotherapist, suggested several reasons: entrance exams, stricter rules, highly competitive athletic clubs, pressure from parents and teachers to achieve, and ijime (school bullying). Katshata and other social observers see an assertion of independence as the root of the "problem". The Ministry of Education has refused to change the system to accommodate these students. They have instead developed "countermeasures...aimed at getting school-refusal kids back in class." Additionally, telephone hotlines have been set up along with government sponsored counseling centers. The author of this report was skeptical of the success these measures would have.

Costiniuk, Bill. "Japan's Educational System: Emphasis on Uniformity." Social Studies Teacher 9 (3) Feb./Mar. 1988: 6-7.

Major elements of Japanese education were reviewed in this paper. They included: 1) curriculum, 2) education mother (Kyoikumama), 3) no tracking or failures, 4) sports and extracurricular activities, 5) examination system, 6) cram schools (juku), 7) teacher training, 8) teaching conditions, 9) student life after school, and 10) summer vacation. Costiniuk discussed problems associated with the Japanese model. Class size (forty five average) and a rigid centralized curriculum were the two most obvious roadblocks to change in the opinion of the author. A third obstacle cited was lack of innovation. Teachers must cooperate with collegues and not upset the status quo. Parental opposition to deviation of the curriculum was the last problem mentioned. Costiniuk saw little hope for speedy or large scale changes in the Japanese system, concluding that the "role of the group as opposed to the individual role will continue to be the dominant factor."

OERI Japan Study Team. Department of Education. Japanese Education Today. Washington: GPO, 1987: 1-89.

Japanese Education Today was a report for the U.S. Department of Education by the OERI Japan Study Team. This was a joint U.S. and Japanese effort where each country exchanged study teams and statistical data compiled by official government departments. Every aspect of the Japanese education system was examined looking for ideas which could be applied to improve education in the U.S. The report was published in 1988 and contained an epilogue by William Bennett, then Secretary of Education. In his summary, Bennett suggested twelve "lessons" for us to learn: 1) parent involvement, 2) a clear purpose for education, 3) motivation, 4) high expectations, 5) a comprehensive curriculum, 6) transmission of culture, 7) moral education, 8) educational environment should reflect society, 9) ample time devoted to education, 10) good teachers make good schools, 11) students are accountable for achievement, 12) resources are used efficiently.

Kroll, Diana Lambdin, and Yabe, Toshiaki. "A Japanese Educator's Perspective on Teaching Mathematics in the Elementary School." Arithmetic Teacher 35 (2) Oct. 1987: 36-43.

This article cited studies illustrating the Japanese superiority in mathematics, and statistical differences in educational systems which appear to influence this. Yabe, a doctoral candidate at Indiana University and former mathematics professor in Japan, offered instructional differences which may account for the discrepency: flexible thinking, ample class instruction for new concepts, a variety of instructional approaches, emphasis on problem solving, and concrete experiences.

Ohanian, Susan. "Notes on Japan from an American Schoolteacher." Phi Delta Kappan 68 (5) January 1987: 360-367.

Ohanian presented the perspective a typical American teacher might have when visiting Japanese schools for the first time. The rigidity of the school system made Ohanian feel uncomfortable. She found the lack of creativity and flexibility demoralizing. Also of concern was the role of women in society which was not addressed in the schools. A lack of accounting for individual differences disturbed her too. Ohanian urged caution to those in America wanting to offer the Japanese system as a model for the United States.

Ohta, Takashi. "Problems and Perspectives in Japanese Education." Comparative Education 22 (1) 1986: 27-30.

Ohta, in this article, took a critical view of societal changes and lamented the failure of Japan's education system to address them. Children have "lost the chance to play...steal a watermelon...take fruit from persimmon trees." Not only has the educational system failed to help solve the problem of lost childhood, the emphasis on testing and a highly structured, centralized curriculum have helped create it. The author was also concerned with the eroding personal relationship between student and teacher. Ohta found the focus in schools increasingly directed toward curriculum and subject mastery, neglecting the humanistic element. Education reform, according to the author, "should clearly recognize that today youngsters are struggling to develop their qualities as human beings."

Schoolland, Ken. "Ijime: The Bullying of Japanese Youth." International Education 15 (2) Spring 1986: 5-28.

Schoolland, an associate professor at Hakodate University examined ijime, the physical and psychological battering of Japanese students. The revered status of "sensai" has for years protected teachers using cruel discipline methods. Parental approval of physical punishment, (55.7 percent) in a poll by the Japan Youth Research Institute, has also served to continue the problem. An Asahi Journal survey of 393 reported cases involving 2,433 students revealed seventy percent received injuries and one student died. The National Police Agency began collecting statistics in 1984 to document the extent of the problem. Between April and October of 1986, there were 155,066 cases reported in the nation's schools. Many others go unreported because students fear reprisals or negative recommendations written by teachers on confidential cumulative records. The problem hasn't gone unnoticed, however, ijime was one of the two major education problems cited by the public in an Asahi Evening News survey.

Chen, Chuansheng, and Stevenson, Harold W. "Homework: A Cross-Cultural Examination." Child Development 60 (3) June 1989: 551-560.

Homework is a reason cited by cultural observers for the Japanese superiority in mathematics. Chen and Stevenson reported data collected from elementary students in the United States and Japan. Interviews, surveys and achievement tests were used. The amount of time spent on homework among Japanese students was considerally more than American students spent. The differences were particularly profound at first grade, two hundred thirty three minutes per week compared to seventy. The most surprising data collected by the authors involved parental help. American parents spent more time than their Japanese counterparts directly helping their children with homework in one study, and roughly the same amount in a second study.

Bartell, Carol A.; Willis, David B. "American and Japanese Principals: A Comparative Analysis of Instructional Leadership." NASSP Bulletin Nov. 1987: 18-27.

The survey in this report was conducted by Bartell and Willis, Osaka, Japan. The purpose of this study addressed two questions: 1) What are the defining characteristics of excellent principals? and 2) How do themes found in their respective cultural contexts influence excellent principals? The basis for evaluation centered on effective schools research. Themes and issues were selected which could be applied across cultures. Peer selection was used to identify outstanding principals who were asked to respond to a survey questionnaire. National Association of Secondary School Principals criteria provided a list of behaviors used in the selection process. Follow up, in-depth interviews were conducted with a random sampling of respondents.

Stevenson, Harold W. "The Asian Advantage: The Case of Mathematics." American Educator 11 (2) Summer 1987: 26-31, 47.

A report of research conducted over a period of six years was summarized in this article. Stevenson attempted to refute some common misconceptions about Japanese education with statistics. Evidence exists that Japanese superiority in Mathematics begins at an early age. Kindergarten students in Japan outperform American students, and widen the distance through high school. The author, however, argues earlier instruction is not the key. The greatest percentage of time spent in direct teaching of academic content occurred in the United States (90 percent), not in Japan (65 percent). In addition, twenty seven percent of American mothers expected children to acquire academic skills in Kindergarten compared to three percent in Japan. Japanese mothers felt socialization was the most important goal of early education. The juku myth was another one dismissed by Stevenson's statistics. Only five percent of Japanese students enroll in math jukus. This is comparable to the three percent of American students who take extra math classes outside of school. Ironically, the Japanese superiority in math is fully appreciated by the American public. Although American students were less successful academically, a majority of their mothers (91 percent) felt schools were doing a good job. This compares to thirty nine percent of Japanese mothers. Most American mothers said they would be very satisfied if their child scored at the seventieth percentile. Japanese mothers set the eighty fourth percentile as their standard. Attitude was one key for achelvement according to Stevenson. Half of the Japanese mothers surveyed felt hard work was the key to academic success, compared to only five percent of American mothers. And, while being inferior in math achievement, first and fifth graders in America viewed math as easier than Japanese students (58 percent and 40 percent compared to 32 percent and 30 percent).

Enloe, Walter and Lewin, Philip. "The Cooperative Spirit in Japanese Primary Education." The Educational Forum 51 (3) Spring 1987: 233-246.

This report focused on the cooperative spirit of Japanese primary education. This spirit is exhibited by students and teachers. Japan's schools have large enrollment which require a cooperative spirit on the part of staff. Parent Teacher Associations are also powerful political publics. In most schools, an older student (jokyusei) is paired up with a younger one, to help them adjust. This article concludes that the wisdom providing a pattern for Japanese educational reform may be equally American, after all.

King, Edmund J. "Japan's Education in Comparative Perspective." Comparative Education 22 (1) 1986: 73-82.

King offered insights into Japanese education in this article. He highlighted the major aspects that make Japanese education unique. The author was critical of the curriculum, which he saw as rigid and limiting. He argued that this structured centralized system has squelched creativity. Evidence of this structure can be seen in the uniformed dress, tunnel vision focusing on college exams, and even moral education. He argued moral education is more caught by exposure than taught be instruction.

Deasy, Richard J. "Education in Japan: Surprising Lessons." Educational Leadership 44 (1) Sept. 1986: 38-43.

Copying Japan will not bring us economic success according to Deasy. Cultural factors such as a low divorce rate, racial homogeny, a group focus, and respect for authority were examined. In conclusion, the author saw Japan's offerings to us as lessons, not solutions.

Shwalb, Barbara J. and Shwalb, David W. "Development of Cooperation and Competition in Japan's Public Schools: Two National Surveys." Evaluation in Education: An International Review Series. 9 (3) 1985: 285-299.

Cooperation and competition of Japanese students were studied by two surveys of Japanese teachers. The purpose of the study was to trace the development of these two seemingly contradictory social attitudes. Teachers were randomly selected from a national list of schools. Half of the teachers were told cooperation was being studied, while the other half was told the study concerned competition. Teachers were asked to select from a list of ten items (of thirty), items which they considered positive examples of cooperation and competition. Elementary teachers listed friendliness, harmony and helping others as desirable behaviors of cooperation, while teams, clubs, and communication were selected for high school students. The survey on competition yielded results consistant with cultural values. At all grade levels, the "most competitive pupil" represented behaviors individual in nature. Rarely listed were behaviors involving sanctioned or group activities.

Ranbom, Sheppard. "Schooling in Japan: The Paradox in the Pattern." Education Week February 20, 1985: 11-33.

This was the first of a three part series on changes taking place in Japanese education. Ranbom took a critical look at Japan's schools and the movement within the country to change them, arguing that reform is imperative to respond to changing values. Ranbom also argued that the Japanese system which has contributed to the dramatic post-war development of Japan into an industrial giant, now threatens to stifle the country. The key elements which make the Japanese education system unique were explored: 1) group orientation, 2) centralized curriculum, 3) examination system, 4) moral education, 5) teacher-pupil relationships, 6) juku, 7) parental involvement, and 8) discipline.

Yao, Esther Lee; Kierstead, Fred D. "Can Asian Educational Systems Be Models for American Education? An Appraisal." NASSP Bulletin Dec. 1984: 82-89.

This article took a close look at the cultural differences between the Japanese and American educational systems. Sharp contrasts were noted in control (centralized vs. local), teacher salaries and status, cultural attitudes toward education and philosophy. Teachers are the highest paid professionals in Japan, and their respected status also attests to the importance of education. Students are taught from early childhood that school is a place for serious study, not a playground. The academic rigors and additional time devoted to education in Japan is the most visible concrete difference. Yao and Kierstead contend that cultural differences make objective comparisons impossible. The philosophy and goals of education in the two countries also contrast dramatically.

Kurachi, Akemi. "Reactions to an Incident Involving a Child in School." Journal of Cross-Cultural Psychology 15 (3) Sept, 1984: 321-336.

This study explored the perceptions and behavioral characteristics of American and Japanese mothers when asked to respond to hypothetical school situations. Kurachi hypothesized that American mothers would not readily assume responsibility for school problems of their children, while Japanese mothers would feel they were at least partially at fault. Mothers from both countries were presented with a hypothetical situation outlining their child's failure to follow through with a task. Subjects were asked to respond to a multiple choice questionnaire evaluating cultural attitudes.

The questionnaire was sent to teachers and parents of school children and seventy six percent responded. Geographical and sociological concerns were considered when the sampling was mailed. The survey tested three variables of factor attribution: culture (Japanese versus American), role (mothers versus teachers), and attribution emphasis. The perceptual attribution score also measured three variables: student-locus, teacher-locus, and self-locus.

American mothers were much more likely to blame the teacher for the problem than the Japanese mothers. Neither group put the major source of responsibility on the child. The internal feelings, motivations, and impulses of the mothers were quite different in the two cultures. This approach is valuable for educators because it offers a way to prejudge the cultural impact of implementing an educational change from Japan to the United States.

White, Merry I. "Japanese Education: How Do They Do It?" The Public Interest 76 Summer 1984: 87-101.

In this article, White searched the Japanese education system for answers Americans could apply to their own. She argued with critics who believe the "source of Japanese success is genetic" and not transferable. White noted inherent cultural advantages of the Japanese: a homogeneous population, cultural tradition and identity, an occupational system based on educational success, the universal core curriculum, well trained teachers, family involvement, and high standards for performance in all sectors of society. Three critical and, according to the author, related problems associated with Japanese education were also addressed. White was concerned by the suicide rate, battered teacher and parent syndromes, and other "juvenile pathologies." A lack of individualism and the suppression of creativity and genius were also concerns, along with a high pressure examination system. The author's conclusion argued for Americans learning more about Japan before borrowing from them.

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Paleologos, Nicholas. "Pacific Overtures." Phi Delta Kappan 68 (5) Jan. 1987: 368.

This editorial by Paleologos in Phi Delta Kappan cautioned educators to take a critical look at the "Japanese miracle" before incorporating those ideas into the American system. His first concern dealt with the highly rigid and centralized nature of Japan's system. The author noted with chagrin that Japanese experts are promoting decentralization in their own system. Reporters at Tokyo's foreign press center openly lamented the one hundred thirty nine Nobel Laureates of the United States compared with Japan's four. Paleologos argued internal voices of reform should be listened to. He cited the refreshingly student-centered ideas of Ernest Boyer, Albert Shanker, Theodore Sizer, John Goodlad and Gregory Anrig.

EDUCATION REFORM IN JAPAN

Horia, Teruhisa. "Towards Reform in Japanese Education: a critique of privatisation and proposal for the re-creation of public education." Comparative Education 22 (1) 1986: 31-36.

The reform movement in Japanese education was addressed by Horio in this article. Two different positions were discussed. The government position supported by financial and industrial concerns seeks deregulation and decentralization. This "voucher" approach, argued the author, misses the heart of the problem. The quality of education would not increase, only the competitive, hierarchical system. The teachers' union position rested on five connecting principles: 1) the principle of human rights and social equality, 2) the principle of peace and international solidarity, 3) the principle of life-long right to study, 4) the principle of independence and cooperation, and 5) the principle of people's participation in educational reform. Horio argued that education is the "people's right, not their duty; the people must be creators of education, not passive recipients."

Hurn, Christopher J. "The Problem With Comparisons." Educational Leadership Oct. 1983: 7-12.

This article examined comparisons between American and Japanese educational systems. Specific elements of each were scrutinized along with their underlying philosophies. Hurn concluded that it is not only impossible but unhealthy to compare educational systems so different from each other. According to the author, "virtues and vices of any educational system are two sides of the same coin."

SUMMARY

American students have scored at a significantly lower level of achievement than their counterparts in Japan. This fact has been documented by international studies of mathematics (Stigler et.al., 1982; Sowder and Sowder, 1988; Stevenson et.al., 1985; Horvath, 1987) and geography (Grosvenor, 1989). Many educators have argued the difference can be explained by Japanese curriculum differences which put a greater emphasis on mathematics. However, the differences appear as early as first grade (Stigler et.al., 1982). The United States has not only lagged behind the Japanese, but a longitudinal study instituted in 1964 and followed up in 1981 showed the gap was widening (Horvath, 1987), and extended to almost all mathematics-related areas including concepts, computation, graphing, measurement, problem solving, visualization and estimation (Sowder and Sowder, 1988). Cognitive ability testing by Lynn (1982) suggested that superior intelligence was one explanation for the achievement differences with an average IQ of 112 discovered for Japanese students. But a follow up study by Stevenson (1987) refuted Lynn's findings, arguing no significant differences existed. The original research was criticized for sloppy testing methodology. What then is the answer for the dramatic difference in achievement between students in Japan and the United States?

One possible answer for the success of the Japanese education system is its structure. Japan's Ministry of Education (MOE) controls a system that is uniform and highly structured. Standardized curriculum and texts insure all students are exposed to the same objectives and materials (Ohanian, 1987). But curriculum is not the only answer. Stigler et.al. (1982) found no major curriculum differences in mathematics at the

elementary level.

The amount of time devoted to each subject is also prescribed precisely (Rosenberg, 1983). Data obtained by Stevenson (1987) showed that eighty seven percent of classroom time in Japan was devoted to academic study, compared to only sixty four percent in the United States. Additional studies found the average American fifth grader spends three hours and twenty four minutes per week in mathematics instruction, compared to seven hours and thirty six minutes in Japan (Stigler, et.al. 1987). This emphasis on academics helps to prepare Japanese students for another element of Japan's centralized education system, national standardized tests; which are tied directly to MOE's curriculum objectives (White, 1984).

"Examination Hell" is the term used to describe Japan's rigid examination system. The purpose of these tests is not to improve instruction but rather to weed out those "suitable intellectually and temperamentally for high status positions" (Enloe and Lewin, 1987, p.243). Supporters argue that it rewards hard work and is based solely on merit (Hiraoka, 1984). It also encourages students to make educational plans earlier. Kariya and Rosenbaum (1987) report ninety six percent of Japanese eleventh grade students had made a decision on college compared to eighty percent of American eleventh graders.

There are drawbacks, however. The exam is objective and often covers trivial details, emphasizing memorization of facts and test taking techniques (Ogura, 1987). Since exams begin at seventh grade, Rosenberg (1983) reports the effects are felt even in grade school. Although most teachers are critical of the process, a study by Kato, et.al. (1984) reveals that ninety four percent of Japanese teachers believe cramming and memorization are effective. Entrance to "best" junior highs, high schools

and colleges are decided solely by the scores on these exams. The system seems "deeply inbred in the Japanese psyche" and, in theory, can be traced to Japan's Confucian legacy stressing a memorization of the classics (Beauchamp, 1987, p.315).

This pressure to succeed has produced an increasingly negative impact on Japanese students. Schooiland (1986) reports Japan ranked sixth (20.5 per 100,000 population) as a nation for suicides of youths between the ages of fifteen and twenty four. While the suicide rate usually increases with age, the youth rate in Japan is actually as high as it is for the elderly (Rosenberg, 1983).

Another stress related social problem is ijime or bullying. Between April and October, 1985, 155,066 cases were reported with police estimating this to be only forty percent of the actual total (Schooiland, 1986). A variety of complaints cited by Beauchamp (1987) include blackmail, burns, bodily injuries, threats and extortion. Parents of the victims, however, usually attribute the blame to their own children. Seventy percent of the parents of junior high boys and sixty four percent of the girls' parents felt their children had "brought the bullying upon themselves" (Schooiland, 1986, p.19).

How does Japan prepare students for these comprehensive exams? There are some instructional differences separating American and Japanese teachers. Stevenson, et.al. (1985) reported teachers in Japan spend much more of their time in large group instruction, eighty six percent in Japan compared to forty six percent in the United States. Conversely, American teachers worked with individual students thirty three percent of the time compared with eleven percent in Japan.

This group emphasis was also true in questioning techniques. Japanese teachers were more likely to address a problem to the whole group, while

American teachers more often interacted with individuals (Holloway, 1988). A common method of addressing an incorrect response in Japan would involve students presenting their solutions to the whole class for discussion. In contrast, American teachers usually evaluated work privately, probably concerned about damaging the student's self-esteem (Sowder and Sowder, 1988). There was surprisingly little difference in methods or amounts of behavioral or academic feedback given to students in class (Stigler, 1987).

Sowder (1988) found that Japanese teachers spend a large amount of time presenting complex verbal explanations. This was true even in first grade where fifty percent of teaching segments at that level contained verbal explanations compared to twenty percent of American lessons. American teachers tended to prefer concrete experiences for students.

Abiko and George (1986) found time on task, a current buzzword in American education, was also important in Japan. An effort was made to keep the class on task for the entire period and interruptions of any kind were rare. Studies by Stigler, et.al. (1987) showed that American students were out of their seats twenty one percent of the time, compared to three percent in Japan, and were off-task seventeen percent opposed to ten percent.

"The nail that sticks up shall be pounded down" is a proverb expressing the Japanese attitude toward the individual. Conformity is essential. This cultural value is an integral part of the education system. Homogeneous groups are nonexistent (Rosenberg, 1983). This cooperative attitude among teachers was illustrated by Kato, et.al. (1984) who found forty eight percent of Japanese teachers felt a competitive environment was not good for learning, compared to only sixteen percent of American teachers. Teachers focus on pulling the slow learners up rather than tracking the class to suit a variety of abilities (White, 1984). But

even in this cooperative environment, competition does exist. According to Ogura, "Since everybody is on the same level and is aiming for the same goal, the impetus is not to get ahead but to try not to get behind others." (Ogura, 1987, p.8).

While competition is an anathema in the public system, it thrives on the outside in the form of jukus. Jukus or cram schools provide accelerated content for brighter students (White, 1984). By the time students reach high school, forty percent attend these after-school enrichment classes (OERI, 1987). Classes cover a wide range of curriculum from academic to the arts, but a majority of students are concentrating on preparation for examination hell (Costiniuk, 1988).

Homework is one major area where education differs dramatically in the United States and Japan. A study by Stigler, et.al. (1982) reported significant differences in the amount of time devoted to homework. Japanese first and fifth graders spent 368 and 233 minutes per week compared to the 256 and 79 minutes assigned American students. The perception, however, of Japanese parents spending large amounts of time helping their children is false. Chen and Stevenson (1989) found parents in the United States actually spent a greater amount of time helping their children (sixty six percent versus forty nine percent for first graders, seventy eight percent versus sixty nine percent for fifth graders).

Parents play a significant role in the Japanese child's education. This is particularly true for the "kyoiku mama" or education mother. Kyoiku mamas sometimes attend class for an ill child and often buy duplicate sets of textbooks to keep up with the academic content their children study at school (OERI, 1987). Specific academic instruction in the early years, however, is not significant. Only thirty percent of Japanese mothers said they taught the alphabet to their children compared to eighty eight percent

of American mothers. Expectations for kindergarten learning are also different. More mothers in the United States than Japan felt academic skills should be acquired (twenty seven percent versus three percent). (Stevenson, 1987).

Perceptions of children also contrasted greatly. Most American mothers were very satisfied if their child scored at the seventieth percentile on a mathematics achievement test, while Japanese mothers weren't very satisfied until reaching the eighty fourth percentile. American mothers also gave higher evaluations of their children's abilities than their Japanese counterparts. In fact, "levels of satisfaction of mothers of low-achieving American children were nearly as high as those of mothers of high-achieving Japanese children (Uttal, et.al., 1988).

Teachers are the most important element of classroom learning, and the profession in Japan has distinct differences. The highest order of respect and prestige are given to the sensai. The pay is equally impressive, with salaries of teachers rivaling that of other top professionals (Yao and Kierstead, 1984). Teachers usually rank in the top twenty percent of their college classes (Enloe and Lewin, 1987). Teachers in Japan assume not only the role of instructor, but also act as moral exemplars and social workers, helping students with personal problems (Yao and Kierstead, 1984).

The role of principals in Japan is also significantly different. Considered "master teachers", principals are foremost instructional leaders. They articulate the goals of the school, and serve as a public relations link to the community (Bartell and Willis, 1987).

Ironically, while Americans have been looking at the Japanese for answers to our education problem, they have been looking at the United States. A May, 1984 survey by a major Japanese newspaper found fifty five percent of adult respondents not satisfied with the school system (OERI,

1987). One prime target for reform is the rigid curriculum which suppresses creativity and genius (White, 1984). Critics point to the lack of Nobel Prize winners in Japan compared to other industrial countries of comparable size. Although Japanese students have displayed a superiority in math and science achievement, most of their industry is based on borrowed technology from the United States and European countries (Rosenberg, 1983).

The other major concern is the state examination system and the effects which have resulted (OERI, 1987). White points out that the Japanese are good at adapting foreign modes to "Japanese needs and conditions." (White, 1984, p.90). "Today however there is no foreign model ... as a candidate for adaption." (Beauchamp, 1987, p.324).

CONCLUSION

The Japanese education system works ... for Japan. This fact has been documented by all comparative international studies of achievement. Surprisingly, however, many elements of Japanese education have also been recognized by current American reformers as essential elements of effective schools. As Hurn so aptly observed:

> Perhaps the multiple and contradictory impulses that have characterized American conceptions of education help explain the ambivalence we have long felt towards our educational system - an excessive and even chauvinistic celebration of its virtues on the one hand, often followed a few years later by an exaggerated breast-beating and invidious comparisons between our "failure" and other countries' "success." But it is important to note that to a large degree the virtues and vices of any educational system are two sides of the same coin.
>
> (Hurn, 1983, p.12)

Both Japan and the United States will be wiser, stronger and healthier if each chooses to adapt the educational strengths of the other without sacrificing the strengths it already possesses.

RECOMMENDATIONS FOR AMERICAN EDUCATION

It is recommended that:

1. Schools develop ways to increase parental involvement.
2. Salaries of teachers be increased to allow competition with other professions.
3. The length of the school year be increased to a minimum of 200 days to increase instructional time.
4. American education continue to emphasize time on task.
5. High expectations and standards be set for student achievement.
6. A national testing program not be implemented unless the sole purpose of said is for instructional decision making.
7. Closer scientific studies of the Japanese education system be undertaken.
8. Instruction have a balance of abstract and concrete experiences.
9. Questioning techniques be developed which address the group rather than individuals.

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